DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-028614
Date Inspected: 19-Oct-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Job Site

CWI Name: Salvador Merino and Barry Drake

CWI Present: ☑ Yes ☐ No

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☐ No	☑ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 5E-PP-29.5-E5 deck access hole inside, QA randomly observed ABF/JV qualified welder Lou Xiao Hua perform CJP groove welding repair. The welder was observed welding in the 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1001-Repairs. The repair excavation was preheated to more than 150 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC Barry Drake was noted monitoring the welder. Prior welding, ABF QC Brien Connoly was also observed performing Magnetic Particle Testing (MT) on the repair excavations prior welding repair. There were no significant defects noted during the test. The following second time repairs were noted excavated and welded during the shift;

Y-location Length Width Depth Remarks

1. 2120mm 80mm 30mm 12mm R2 – completed.
2. 3510mm 100mm 30mm 10mm R2 – completed at the bottom. To excavate and repair from the top.
3. 4190mm 100mm 40mm 12mm R2 – completed at the bottom. To excavate and repair from the top.

At OBG 2W-PP13.5-W2 N deck access hole inside, QA randomly observed ABF/JV qualified welder Ric Clayborn perform CJP groove welding repair due to UT detected defect and heat transfer mark using oxy-propylene gas torch. The welding repair is being performed on three (3) various locations per Caltrans approved Request for Weld Repair (RWR) # 201209-114 through 116. The welder was observed welding in the 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. The repair excavations were excavated using carbon air arc gouging with preheat temperature of more than 150°F using propylene gas torch prior excavation. The groove of the excavation was ground smooth and tested by ABF QC Salvador Merino using Magnetic Particle Testing (MT). During welding repair, the repair area and its vicinity was preheated to more than 150 degree Fahrenheit using propylene gas torch prior/during welding. During the shift, ABF QC Salvador Merino was noted monitoring the welder with measured working current of 135 amperes on 3.2mm E7018H4R electrode. At the end of the shift all three excavations from the bottom were completed. However, contractor's recommended WPS to be used (listed in the RWR) during welding repair were not implemented due to non-conformity to the joint configuration and this was brought to the attention of Lead QA Rodney Patterson. The following repairs were noted excavated and welded from the bottom during the shift;

Y-location	Length	Width	Depth	RWR#	Remarks
1.	415mm	95mm	65mm	12mm	201209-114 In progress.
2.	1195mm	120mm	45mm	12mm	201209-115 In progress.
3.	3365mm	100mm	40mm	10mm	201209-116 In progress.

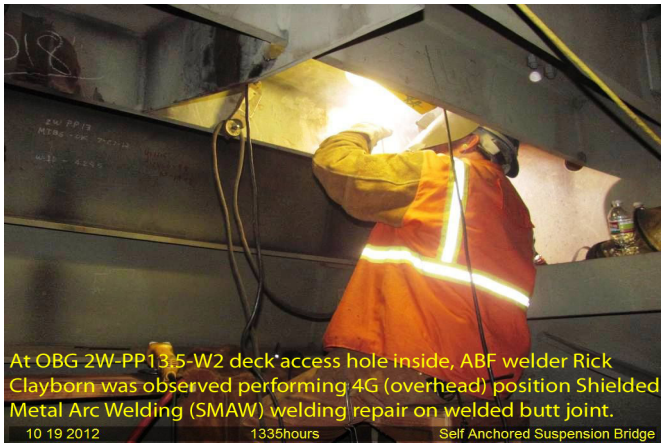
FW Spencer:

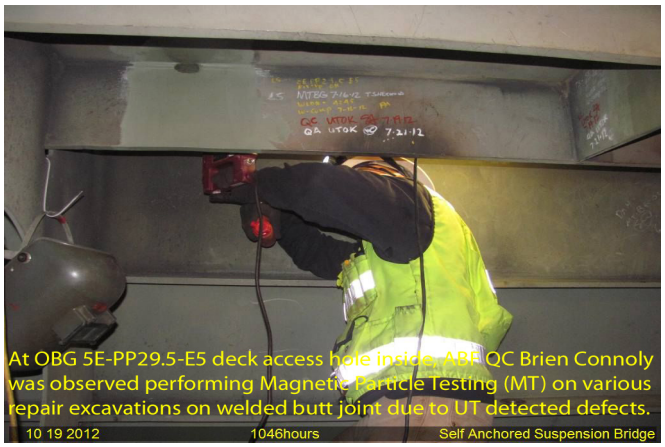
At OBG location Panel Point PP114 through PP116, this QA randomly observed FW Spencer qualified welder Damian Llanos continuing to perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on 2 1/2" diameter domestic utility water, 4" diameter compressed air lines and 1" diameter weldolet. The welder was noted welding the root pass with 3/32" diameter E6010 electrode and followed by fill pass to cover pass using 3/32" diameter E7018H4R electrode implementing Caltrans approved procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable propane gas torch prior welding. During welding, ABF QC Steve Jensen was noted monitoring the parameters of the welder. At the end of the FW Spencer shift, CJP welding on one 2 ½", one 4" and two 1" diameter utility water, compressed line pipe butt joints and weldolet T-joints respectively were completed.

Line	Service Line/Pipe	Size	Panel Point Location	Joint Designation
1	Domestic Water	2 1/2"	115	Northwest 60/2.5/115/NW
2	Compressed Air	4"	115	Northwest 60/4/115/NW
3	Domestic Water	1"	116	Northwest 1/1/116/NW
4	Domestic Water	1"	114	Northwest 1/1/114/NW

WELDING INSPECTION REPORT

(Continued Page 3 of 3)





Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Reyes,Danny	QA Reviewer